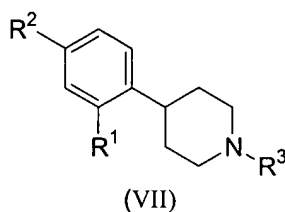


## IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) The present invention provides a process for the preparation of compounds of structural formula (VII):



wherein

R<sup>1</sup> is selected from the group consisting of

- (1) CN,
- (2) C(O)OH,
- (3) C(O)-C<sub>1-6</sub> alkyl,
- (4) C(O C<sub>1-6</sub> alkyl)<sub>2</sub>-C<sub>1-6</sub> alkyl, and
- (5) C(R<sup>5</sup>)<sub>2</sub>N(R<sup>5</sup>)C(O)-C<sub>1-6</sub> alkyl;

each R<sup>2</sup> is independently selected from the group consisting of

- (1) hydrogen,
- (2) C<sub>1-6</sub> alkyl,
- (3) -(CH<sub>2</sub>)<sub>n</sub>-phenyl,
- (4) -(CH<sub>2</sub>)<sub>n</sub>-naphthyl,
- (5) -(CH<sub>2</sub>)<sub>n</sub>-heteroaryl,
- (6) -(CH<sub>2</sub>)<sub>n</sub>-heterocyclyl,
- (7) -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub> cycloalkyl,
- (8) fluoride,
- (9) chloride,
- (10) OR<sup>5</sup>,
- (11) -(CH<sub>2</sub>)<sub>n</sub>N(R<sup>5</sup>)<sub>2</sub>,
- (12) -(CH<sub>2</sub>)<sub>n</sub>C≡N,
- (13) -(CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R<sup>5</sup>,

- (14)  $\text{NO}_2$ ,
- (15)  $\text{N}(\text{R}^5)_2$ ,
- (16)  $-(\text{CH}_2)_n\text{NR}^5\text{SO}_2\text{R}^5$ ,
- (17)  $-(\text{CH}_2)_n\text{SO}_2\text{N}(\text{R}^5)_2$ ,
- (18)  $-(\text{CH}_2)_n\text{S}(\text{O})_p\text{R}^5$ ,
- (19)  $-(\text{CH}_2)_n\text{NR}^5\text{C}(\text{O})\text{N}(\text{R}^5)_2$ ,
- (20)  $-(\text{CH}_2)_n\text{C}(\text{O})\text{N}(\text{R}^5)_2$ ,
- (21)  $-(\text{CH}_2)_n\text{NR}^5\text{C}(\text{O})\text{R}^5$ ,
- (22)  $-(\text{CH}_2)_n\text{NR}^5\text{CO}_2\text{R}^5$ ,
- (23)  $-(\text{CH}_2)_n\text{NR}^5\text{C}(\text{O})$ -heteroaryl,
- (24)  $-(\text{CH}_2)_n\text{C}(\text{O})\text{NR}^5\text{N}(\text{R}^5)_2$ ,
- (25)  $-(\text{CH}_2)_n\text{C}(\text{O})\text{NR}^5\text{NR}^5\text{C}(\text{O})\text{R}^5$ ,
- (26)  $\text{O}(\text{CH}_2)_n\text{C}(\text{O})\text{N}(\text{R}^5)_2$ ,
- (27)  $\text{CF}_3$ ,
- (28)  $\text{CH}_2\text{CF}_3$ ,
- (29)  $\text{OCF}_3$ , and
- (30)  $\text{OCH}_2\text{CF}_3$ ,

wherein phenyl, naphthyl, heteroaryl, cycloalkyl, and heterocyclyl are unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, oxo,  $\text{C}_{1-4}$  alkyl, trifluoromethyl, and  $\text{C}_{1-4}$  alkoxy, and wherein any methylene ( $\text{CH}_2$ ) carbon atom in  $\text{R}^2$  is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and  $\text{C}_{1-4}$  alkyl, or two substituents when on the same methylene ( $\text{CH}_2$ ) group are taken together with the carbon atom to which they are attached to form a cyclopropyl group;

$\text{R}^3$  is selected from the group consisting of

- (1)  $\text{C}(\text{O})\text{O}$ -phenyl,
- (2)  $\text{C}(\text{O})\text{O}$ - $\text{CH}_2$ -phenyl,
- (3)  $\text{C}(\text{O})\text{O}$ -isopropyl,
- (4)  $\text{C}(\text{O})\text{O}$ -isobutyl, and
- (5)  $\text{C}(\text{O})\text{O}$ -ethyl;

each  $\text{R}^5$  is independently selected from the group consisting of

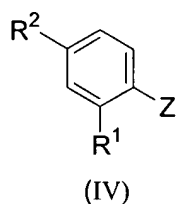
- (1) hydrogen,
- (2)  $\text{C}_{1-6}$  alkyl,

- (3)  $-(CH_2)_n$ -phenyl,
- (4)  $-(CH_2)_n$ -heteroaryl,
- (5)  $-(CH_2)_n$ -naphthyl,
- (6)  $-(CH_2)_n$ -heterocyclyl,
- (7)  $-(CH_2)_n$ C<sub>3-7</sub> cycloalkyl, and
- (8)  $-(CH_2)_n$ C<sub>3-7</sub> bicycloalkyl,

wherein alkyl, phenyl, heteroaryl, heterocyclyl, and cycloalkyl are unsubstituted or substituted with one to three groups independently selected from halogen, C<sub>1-4</sub> alkyl, hydroxy, and C<sub>1-4</sub> alkoxy, or two R<sup>5</sup> groups together with the atom to which they are attached form a 4- to 8-membered mono- or bicyclic ring system optionally containing an additional heteroatom selected from O, S, and -NC<sub>1-4</sub> alkyl;

comprising the steps of:

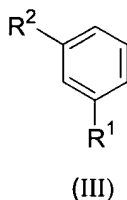
- (a) preparing a compound of structural formula (IV)



wherein

R<sup>1</sup> and R<sup>2</sup> are as defined above, and Z is a halogen atom selected from the group consisting of bromide and iodide,

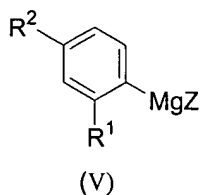
by halogenating a compound of structural formula (III)



wherein

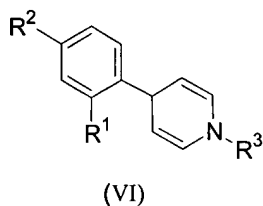
R<sup>1</sup> and R<sup>2</sup> are as defined above, and isolating the resulting product;

- (b) forming an aryl magnesium halide of structural formula (V)

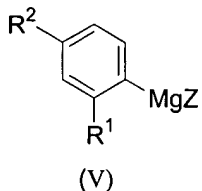


wherein  $R^1$ ,  $R^2$  and  $Z$  are as defined above,  
by treating the compound of structural formula (IV) with a magnesium compound;

(c) preparing a compound of structural formula (VI)

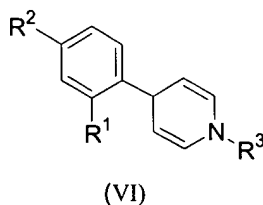


wherein  $R^1$ ,  $R^2$  and  $R^3$  are as defined above,  
by treating the aryl magnesium halide of structural formula (V)



wherein  $R^1$ ,  $R^2$ , and  $Z$  are as defined above, with a preformed pyridinium ion, and isolating the resulting product;

(d) reducing the dihydropyridine double bonds in the compound of structural formula (VI)



wherein  $R^1$ ,  $R^2$  and  $R^3$  are as defined above; and

(e) isolating the resulting product.

2. (original) The process of Claim 1 wherein R<sup>1</sup> is CN; R<sup>2</sup> is chloride; R<sup>3</sup> is C(O)O-CH<sub>2</sub>-phenyl; and Z is bromide.

3. (original) The process of Claim 2 wherein the compound of structural formula (III) is brominated by treatment with a brominating agent in the presence of an acid.

4. (original) The process of Claim 3 wherein the brominating agent is 1,3-dibromo-5,5-dimethylhydantoin.

5. (original) The process of Claim 3 wherein the acid is methane sulfonic acid.

6. (original) The process of Claim 1 step (b) wherein the magnesium compound is a compound of formula (IX)



wherein R<sup>a</sup> is selected from the group consisting of isopropyl, cyclohexyl and tert-butyl, and X is selected from the group consisting of chloride, bromide, and iodide.

7. (original) The process of Claim 6 wherein the magnesium compound of formula (X) is isopropyl magnesium chloride.

8. (original) The process of Claim 1 wherein the preformed pyridinium ion of step (c) is formed by treating pyridine, with a chloroformate of formula (X)



wherein R<sup>b</sup> is selected from the group consisting of ethyl, isopropyl, isobutyl, phenyl and benzyl, in the presence of a copper compound.

9. (original) The process of Claim 8 wherein the copper compound is copper iodide.

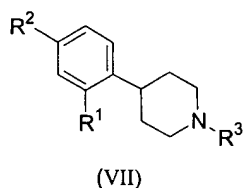
10. (original) The process of Claim 8 wherein the chloroformate of formula (X) is benzyl chloroformate.

11. (original) The process of Claim 1 wherein the dihydropyridine double bonds of compound (VI) of step (d) are reduced by hydrogenation in the presence of a catalyst.

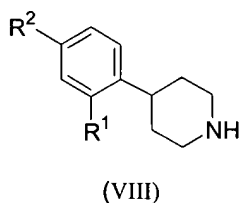
12. (original) The process of Claim 11 wherein the catalyst is  $\text{RhCl}(\text{PPh}_3)_3$ .

13. (original) The process of Claim 1 further comprising the steps of

(f) cleaving the  $\text{R}^3$  protecting group in the compound of structural formula (VII)

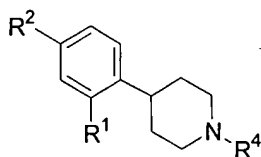


wherein  $\text{R}^1$ ,  $\text{R}^2$ , and  $\text{R}^3$  are as defined in Claim 1,  
to afford a compound of structural formula (VIII)



and isolating the resulting product;

(g) adding a  $\text{R}^4$  protecting group to the free amine (VIII) to form the compound of structural formula (I),



(I)

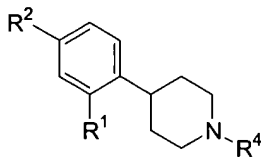
wherein R<sup>1</sup>, R<sup>2</sup> are as defined above, and  
R<sup>4</sup> is selected from the group consisting of

- (1) C(O)O-*tert*-butyl,
- (2) C(O)O-CH<sub>2</sub>-phenyl, and
- (3) C(O)O-phenyl; and

(h) isolating the resulting product.

14. (original) The process of Claim 13 wherein R<sup>4</sup> is C(O)O-*tert*-butyl.

15. (amended) A process for preparing a compound of structural formula (I)



(I)

wherein

~~R<sup>1</sup> is selected from the group consisting of~~

- ~~(1) ———— CN,~~
- ~~(2) ———— C(O)OH,~~
- ~~(3) ———— C(O) C<sub>1-6</sub> alkyl,~~
- ~~(4) ———— C(O C<sub>1-6</sub> alkyl)<sub>2</sub> C<sub>1-6</sub> alkyl, and ————~~
- ~~(5) ———— C(R<sup>5</sup>)<sub>2</sub>N(R<sup>5</sup>)C(O) C<sub>1-6</sub> alkyl;~~

~~each R<sup>2</sup> is independently selected from the group consisting of~~

- ~~(1) ———— hydrogen,~~
- ~~(2) ———— C<sub>1-6</sub> alkyl,~~
- ~~(3) ———— (CH<sub>2</sub>)<sub>n</sub> phenyl,~~
- ~~(4) ———— (CH<sub>2</sub>)<sub>n</sub> naphthyl,~~

- (5) —  $(\text{CH}_2)_n$ -heteroaryl,
- (6) —  $(\text{CH}_2)_n$ -heterocyclyl,
- (7) —  $(\text{CH}_2)_n$ C<sub>3-7</sub>cycloalkyl,
- (8) — fluoride,
- (9) — chloride,
- (10) — OR<sup>5</sup>,
- (11) —  $(\text{CH}_2)_n\text{N}(\text{R}^5)_2$ ,
- (12) —  $(\text{CH}_2)_n\text{C}=\text{N}$ ,
- (13) —  $(\text{CH}_2)_n\text{CO}_2\text{R}^5$ ,
- (14) — NO<sub>2</sub>,
- (15) — N(R<sup>5</sup>)<sub>2</sub>,
- (16) —  $(\text{CH}_2)_n\text{NR}^5\text{SO}_2\text{R}^5$ ,
- (17) —  $(\text{CH}_2)_n\text{SO}_2\text{N}(\text{R}^5)_2$ ,
- (18) —  $(\text{CH}_2)_n\text{S}(\text{O})_p\text{R}^5$ ,
- (19) —  $(\text{CH}_2)_n\text{NR}^5\text{C}(\text{O})\text{N}(\text{R}^5)_2$ ,
- (20) —  $(\text{CH}_2)_n\text{C}(\text{O})\text{N}(\text{R}^5)_2$ ,
- (21) —  $(\text{CH}_2)_n\text{NR}^5\text{C}(\text{O})\text{R}^5$ ,
- (22) —  $(\text{CH}_2)_n\text{NR}^5\text{CO}_2\text{R}^5$ ,
- (23) —  $(\text{CH}_2)_n\text{NR}^5\text{C}(\text{O})$ -heteroaryl,
- (24) —  $(\text{CH}_2)_n\text{C}(\text{O})\text{NR}^5\text{N}(\text{R}^5)_2$ ,
- (25) —  $(\text{CH}_2)_n\text{C}(\text{O})\text{NR}^5\text{NR}^5\text{C}(\text{O})\text{R}^5$ ,
- (26) — O(CH<sub>2</sub>)<sub>n</sub>C(O)N(R<sup>5</sup>)<sub>2</sub>,
- (27) — CF<sub>3</sub>,
- (28) — CH<sub>2</sub>CF<sub>3</sub>,
- (29) — OCF<sub>3</sub>, and
- (30) — OCH<sub>2</sub>CF<sub>3</sub>,

wherein phenyl, naphthyl, heteroaryl, cycloalkyl, and heterocyclyl are unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, oxo, C<sub>1-4</sub>-alkyl, trifluoromethyl, and C<sub>1-4</sub>-alkoxy, and wherein any methylene (CH<sub>2</sub>) carbon atom in R<sup>2</sup> is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C<sub>1-4</sub>-alkyl, or two substituents when on the same methylene (CH<sub>2</sub>) group are taken together with the carbon atom to which they are attached to form a cyclopropyl group;

R<sup>4</sup> is selected from the group consisting of



- (1) ——— C(O)O-*tert*-butyl;
- (2) ——— C(O)O-CH<sub>2</sub>-phenyl; and
- (3) ——— C(O)O-phenyl; and

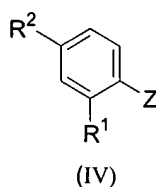
each R<sup>5</sup> is independently selected from the group consisting of

- (1) ——— hydrogen;
- (2) ——— C<sub>1-6</sub> alkyl;
- (3) ——— (CH<sub>2</sub>)<sub>n</sub>-phenyl;
- (4) ——— (CH<sub>2</sub>)<sub>n</sub>-heteroaryl;
- (5) ——— (CH<sub>2</sub>)<sub>n</sub>-naphthyl;
- (6) ——— (CH<sub>2</sub>)<sub>n</sub>-heterocyclyl;
- (7) ——— (CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub>-cycloalkyl; and
- (8) ——— (CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub>-bicycloalkyl;

wherein alkyl, phenyl, heteroaryl, heterocyclyl, and cycloalkyl are unsubstituted or substituted with one to three groups independently selected from halogen, C<sub>1-4</sub> alkyl, hydroxy, and C<sub>1-4</sub> alkoxy, or two R<sup>5</sup> groups together with the atom to which they are attached form a 4- to 8-membered mono- or bicyclic ring system optionally containing an additional heteroatom selected from O, S, and NC<sub>1-4</sub> alkyl;

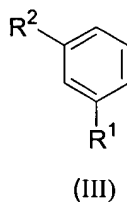
comprising the steps of:

- (a) preparing a compound of structural formula (IV)



wherein R<sup>1</sup> and R<sup>2</sup> are as defined above, and Z is a halogen atom selected from the group consisting of bromide and iodide;

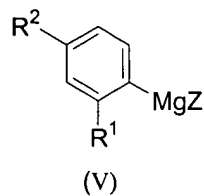
by halogenating a compound of structural formula (III)



~~wherein R<sup>1</sup> and R<sup>2</sup> are as defined above, and~~

and isolating the resulting product;

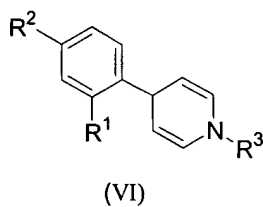
(b) forming an aryl magnesium halide of structural formula (V)



~~wherein R<sup>1</sup>, R<sup>2</sup> and Z are as defined above,~~

by treating the compound of structural formula (IV) with a magnesium compound;

(c) preparing a compound of structural formula (VI)

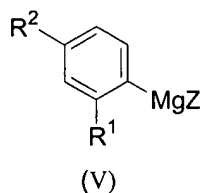


~~wherein R<sup>1</sup>, R<sup>2</sup> are as defined above, and~~

~~R<sup>3</sup> is selected from the group consisting of~~

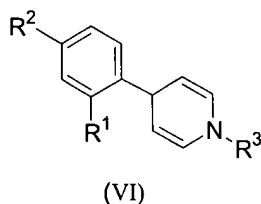
- (1) ————— C(O)O-phenyl,
- (2) ————— C(O)O-CH<sub>2</sub>-phenyl,
- (3) ————— C(O)O-isopropyl,
- (4) ————— C(O)O-isobutyl, and
- (5) ————— C(O)O-ethyl,

by treating the aryl magnesium halide of structural formula (V)



wherein  $R^1$ ,  $R^2$ , and  $Z$  are as defined above, with a preformed pyridinium ion, and isolating the resulting product;

(d) reducing the dihydropyridine double bonds in the compound of structural formula (VI)



wherein  $R^1$ ,  $R^2$  and  $R^3$  are as defined above; and

(e) isolating the resulting product;

wherein  $R^1$  is selected from the group consisting of

- (1)  $CN$ ,
- (2)  $C(O)OH$ ,
- (3)  $C(O)-C_{1-6}$  alkyl,
- (4)  $C(O-C_{1-6} \text{ alkyl})_2-C_{1-6}$  alkyl, and
- (5)  $C(R^5)_2N(R^5)C(O)-C_{1-6}$  alkyl;

each  $R^2$  is independently selected from the group consisting of

- (1) hydrogen,
- (2)  $C_{1-6}$  alkyl,
- (3)  $-(CH_2)_n$ -phenyl,
- (4)  $-(CH_2)_n$ -naphthyl,
- (5)  $-(CH_2)_n$ -heteroaryl,
- (6)  $-(CH_2)_n$ -heterocyclyl,
- (7)  $-(CH_2)_n$ - $C_{3-7}$  cycloalkyl,
- (8) fluoride,

- (9) chloride,
- (10) OR<sup>5</sup>,
- (11) -(CH<sub>2</sub>)<sub>n</sub>N(R<sup>5</sup>)<sub>2</sub>,
- (12) -(CH<sub>2</sub>)<sub>n</sub>C≡N,
- (13) -(CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R<sup>5</sup>,
- (14) NO<sub>2</sub>,
- (15) N(R<sup>5</sup>)<sub>2</sub>,
- (16) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>SO<sub>2</sub>R<sup>5</sup>,
- (17) -(CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>N(R<sup>5</sup>)<sub>2</sub>,
- (18) -(CH<sub>2</sub>)<sub>n</sub>S(O)<sub>p</sub>R<sup>5</sup>,
- (19) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)N(R<sup>5</sup>)<sub>2</sub>,
- (20) -(CH<sub>2</sub>)<sub>n</sub>C(O)N(R<sup>5</sup>)<sub>2</sub>,
- (21) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)R<sup>5</sup>,
- (22) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>CO<sub>2</sub>R<sup>5</sup>,
- (23) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)-heteroaryl,
- (24) -(CH<sub>2</sub>)<sub>n</sub>C(O)NR<sup>5</sup>N(R<sup>5</sup>)<sub>2</sub>,
- (25) -(CH<sub>2</sub>)<sub>n</sub>C(O)NR<sup>5</sup>NR<sup>5</sup>C(O)R<sup>5</sup>,
- (26) O(CH<sub>2</sub>)<sub>n</sub>C(O)N(R<sup>5</sup>)<sub>2</sub>,
- (27) CF<sub>3</sub>,
- (28) CH<sub>2</sub>CF<sub>3</sub>,
- (29) OCF<sub>3</sub>, and
- (30) OCH<sub>2</sub>CF<sub>3</sub>,

wherein phenyl, naphthyl, heteroaryl, cycloalkyl, and heterocyclyl are unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, oxo, C<sub>1-4</sub> alkyl, trifluoromethyl, and C<sub>1-4</sub> alkoxy, and wherein any methylene (CH<sub>2</sub>) carbon atom in R<sup>2</sup> is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C<sub>1-4</sub> alkyl, or two substituents when on the same methylene (CH<sub>2</sub>) group are taken together with the carbon atom to which they are attached to form a cyclopropyl group;

R<sup>3</sup> is selected from the group consisting of

- (1) C(O)O-phenyl,
- (2) C(O)O-CH<sub>2</sub>-phenyl,
- (3) C(O)O-isopropyl,
- (4) C(O)O-isobutyl, and

(5) C(O)O-ethyl;

R<sup>4</sup> is selected from the group consisting of

- (1) C(O)O-*tert*-butyl,
- (2) C(O)O-CH<sub>2</sub>-phenyl, and
- (3) C(O)O-phenyl;

each R<sup>5</sup> is independently selected from the group consisting of

- (1) hydrogen,
- (2) C<sub>1-6</sub> alkyl,
- (3) -(CH<sub>2</sub>)<sub>n</sub>-phenyl,
- (4) -(CH<sub>2</sub>)<sub>n</sub>-heteroaryl,
- (5) -(CH<sub>2</sub>)<sub>n</sub>-naphthyl,
- (6) -(CH<sub>2</sub>)<sub>n</sub>-heterocyclyl,
- (7) -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub> cycloalkyl, and
- (8) -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub> bicycloalkyl,

wherein alkyl, phenyl, heteroaryl, heterocyclyl, and cycloalkyl are unsubstituted or substituted with one to three groups independently selected from halogen, C<sub>1-4</sub> alkyl, hydroxy, and C<sub>1-4</sub> alkoxy, or two R<sup>5</sup> groups together with the atom to which they are attached form a 4- to 8-membered mono- or bicyclic ring system optionally containing an additional heteroatom selected from O, S, and -NC<sub>1-4</sub> alkyl; and

Z is a halogen atom selected from the group consisting of bromide and iodide.

16. (original) The process of Claim 15 wherein R<sup>1</sup> is CN; R<sup>2</sup> is chloride; R<sup>3</sup> is C(O)O-CH<sub>2</sub>-phenyl; R<sup>4</sup> is C(O)O-*tert*-butyl; and Z is bromide.

17. (original) The process of Claim 16 wherein the compound of structural formula (III) is brominated by treatment with a brominating agent in the presence of an acid.

18. (original) The process of Claim 17 wherein the brominating agent is 1,3-dibromo-5,5-dimethylhydantoin.

19. (original) The process of Claim 17 wherein the acid is methanesulfonic acid, trifluoroacetic acid, or sulfuric acid, or a combination thereof.

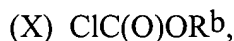
20. (original) The process of Claim 15 step (b) wherein the magnesium compound is a compound of formula (IX)



wherein  $R^a$  is selected from the group consisting of isopropyl, cyclohexyl and tert-butyl, and X is selected from the group consisting of chloride, bromide, and iodide.

21. (original) The process of Claim 20 wherein the magnesium compound of formula (X) is isopropyl magnesium chloride.

22. (original) The process of Claim 15 wherein the preformed pyridinium ion of step (c) is formed by treating pyridine, with a chloroformate of formula (X)



wherein  $R^b$  is selected from the group consisting of ethyl, isopropyl, isobutyl, phenyl and benzyl, in the presence of a copper compound.

23. (original) The process of Claim 22 wherein the copper compound is copper iodide.

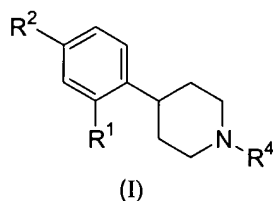
24. (original) The process of Claim 22 wherein the chloroformate of formula (X) is benzyl chloroformate.

25. (original) The process of Claim 15 wherein the dihydropyridine double bonds of compound (VI) of step (d) are reduced by hydrogenation in the presence of a catalyst and an anhydride.

26. (original) The process of Claim 25 wherein the catalyst is Pd/C.

27. (original) The process of Claim 25 wherein the anhydride is *tert*-butyloxycarbonyl anhydride.

28. (amended) A process for preparing a compound of structural formula (I)



wherein

~~R<sup>1</sup> is selected from the group consisting of~~

- (1) ~~\_\_\_\_\_ CN,~~
- (2) ~~\_\_\_\_\_ C(O)OH,~~
- (3) ~~\_\_\_\_\_ C(O) C<sub>1-6</sub> alkyl,~~
- (4) ~~\_\_\_\_\_ C(O C<sub>1-6</sub> alkyl)<sub>2</sub> C<sub>1-6</sub> alkyl, and \_\_\_\_\_~~
- (5) ~~\_\_\_\_\_ C(R<sup>5</sup>)<sub>2</sub>N(R<sup>5</sup>)C(O) C<sub>1-6</sub> alkyl;~~

~~each R<sup>2</sup> is independently selected from the group consisting of~~

- (1) ~~\_\_\_\_\_ hydrogen,~~
- (2) ~~\_\_\_\_\_ C<sub>1-6</sub> alkyl,~~
- (3) ~~\_\_\_\_\_ (CH<sub>2</sub>)<sub>n</sub> phenyl,~~
- (4) ~~\_\_\_\_\_ (CH<sub>2</sub>)<sub>n</sub> naphthyl,~~
- (5) ~~\_\_\_\_\_ (CH<sub>2</sub>)<sub>n</sub> heteroaryl,~~
- (6) ~~\_\_\_\_\_ (CH<sub>2</sub>)<sub>n</sub> heterocyclyl,~~
- (7) ~~\_\_\_\_\_ (CH<sub>2</sub>)<sub>n</sub> C<sub>3-7</sub> cycloalkyl,~~
- (8) ~~\_\_\_\_\_ fluoride,~~
- (9) ~~\_\_\_\_\_ chloride,~~
- (10) ~~\_\_\_\_\_ OR<sup>5</sup>,~~
- (11) ~~\_\_\_\_\_ (CH<sub>2</sub>)<sub>n</sub>N(R<sup>5</sup>)<sub>2</sub>,~~
- (12) ~~\_\_\_\_\_ (CH<sub>2</sub>)<sub>n</sub>C=N,~~
- (13) ~~\_\_\_\_\_ (CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R<sup>5</sup>,~~
- (14) ~~\_\_\_\_\_ NO<sub>2</sub>,~~
- (15) ~~\_\_\_\_\_ N(R<sup>5</sup>)<sub>2</sub>,~~

- (16) —(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>SO<sub>2</sub>R<sup>5</sup>;
- (17) —(CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>N(R<sup>5</sup>)<sub>2</sub>;
- (18) —(CH<sub>2</sub>)<sub>n</sub>S(O)<sub>p</sub>R<sup>5</sup>;
- (19) —(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)N(R<sup>5</sup>)<sub>2</sub>;
- (20) —(CH<sub>2</sub>)<sub>n</sub>C(O)N(R<sup>5</sup>)<sub>2</sub>;
- (21) —(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)R<sup>5</sup>;
- (22) —(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>CO<sub>2</sub>R<sup>5</sup>;
- (23) —(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)-heteroaryl;
- (24) —(CH<sub>2</sub>)<sub>n</sub>C(O)NR<sup>5</sup>N(R<sup>5</sup>)<sub>2</sub>;
- (25) —(CH<sub>2</sub>)<sub>n</sub>C(O)NR<sup>5</sup>NR<sup>5</sup>C(O)R<sup>5</sup>;
- (26) —O(CH<sub>2</sub>)<sub>n</sub>C(O)N(R<sup>5</sup>)<sub>2</sub>;
- (27) —CF<sub>3</sub>;
- (28) —CH<sub>2</sub>CF<sub>3</sub>;
- (29) —OCF<sub>3</sub>; and
- (30) —OCH<sub>2</sub>CF<sub>3</sub>;

wherein phenyl, naphthyl, heteroaryl, cycloalkyl, and heterocyclyl are unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, oxo, C<sub>1-4</sub>-alkyl, trifluoromethyl, and C<sub>1-4</sub>-alkoxy, and wherein any methylene (CH<sub>2</sub>) carbon atom in R<sup>2</sup> is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C<sub>1-4</sub>-alkyl, or two substituents when on the same methylene (CH<sub>2</sub>) group are taken together with the carbon atom to which they are attached to form a cyclopropyl group;

R<sup>4</sup> is selected from the group consisting of

- (1) —C(O)O-*tert*-butyl;
- (2) —C(O)O-CH<sub>2</sub>-phenyl; and
- (3) —C(O)O-phenyl; and

each R<sup>5</sup> is independently selected from the group consisting of

- (1) —hydrogen;
- (2) —C<sub>1-6</sub>-alkyl;
- (3) —(CH<sub>2</sub>)<sub>n</sub>-phenyl;
- (4) —(CH<sub>2</sub>)<sub>n</sub>-heteroaryl;
- (5) —(CH<sub>2</sub>)<sub>n</sub>-naphthyl;
- (6) —(CH<sub>2</sub>)<sub>n</sub>-heterocyclyl;



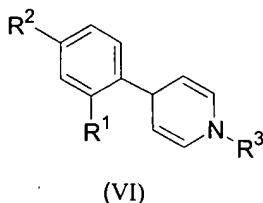
(7) —(CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub> cycloalkyl, and

(8) —(CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub> bicycloalkyl,

wherein alkyl, phenyl, heteroaryl, heterocyclyl, and cycloalkyl are unsubstituted or substituted with one to three groups independently selected from halogen, C<sub>1-4</sub> alkyl, hydroxy, and C<sub>1-4</sub> alkoxy, or two R<sup>5</sup> groups together with the atom to which they are attached form a 4- to 8-membered mono- or bicyclic ring system optionally containing an additional heteroatom selected from O, S, and NC<sub>1-4</sub> alkyl;

comprising the steps of:

(a) reducing the dihydropyridine double bonds in the compound of structural formula (VI)



wherein R<sup>1</sup>, R<sup>2</sup> are as defined above, and

R<sup>3</sup> is selected from the group consisting of

- (1) — C(O)O phenyl,
- (2) — C(O)O CH<sub>2</sub> phenyl,
- (3) — C(O)O isopropyl,
- (4) — C(O)O isobutyl, and
- (5) — C(O)O ethyl;

(b) isolating the resulting product;

wherein R<sup>1</sup> is selected from the group consisting of

- (1) CN,
- (2) C(O)OH,
- (3) C(O)-C<sub>1-6</sub> alkyl,
- (4) C(O C<sub>1-6</sub> alkyl)<sub>2</sub>-C<sub>1-6</sub> alkyl, and
- (5) C(R<sup>5</sup>)<sub>2</sub>N(R<sup>5</sup>)C(O)-C<sub>1-6</sub> alkyl;

each R<sup>2</sup> is independently selected from the group consisting of

- (1) hydrogen,
- (2) C<sub>1-6</sub> alkyl,
- (3) -(CH<sub>2</sub>)<sub>n</sub>-phenyl,
- (4) -(CH<sub>2</sub>)<sub>n</sub>-naphthyl,
- (5) -(CH<sub>2</sub>)<sub>n</sub>-heteroaryl,
- (6) -(CH<sub>2</sub>)<sub>n</sub>-heterocyclyl,
- (7) -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub> cycloalkyl,
- (8) fluoride,
- (9) chloride,
- (10) OR<sup>5</sup>,
- (11) -(CH<sub>2</sub>)<sub>n</sub>N(R<sup>5</sup>)<sub>2</sub>,
- (12) -(CH<sub>2</sub>)<sub>n</sub>C≡N,
- (13) -(CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R<sup>5</sup>,
- (14) NO<sub>2</sub>,
- (15) N(R<sup>5</sup>)<sub>2</sub>,
- (16) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>SO<sub>2</sub>R<sup>5</sup>,
- (17) -(CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>N(R<sup>5</sup>)<sub>2</sub>,
- (18) -(CH<sub>2</sub>)<sub>n</sub>S(O)<sub>p</sub>R<sup>5</sup>,
- (19) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)N(R<sup>5</sup>)<sub>2</sub>,
- (20) -(CH<sub>2</sub>)<sub>n</sub>C(O)N(R<sup>5</sup>)<sub>2</sub>,
- (21) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)R<sup>5</sup>,
- (22) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>CO<sub>2</sub>R<sup>5</sup>,
- (23) -(CH<sub>2</sub>)<sub>n</sub>NR<sup>5</sup>C(O)-heteroaryl,
- (24) -(CH<sub>2</sub>)<sub>n</sub>C(O)NR<sup>5</sup>N(R<sup>5</sup>)<sub>2</sub>,
- (25) -(CH<sub>2</sub>)<sub>n</sub>C(O)NR<sup>5</sup>NR<sup>5</sup>C(O)R<sup>5</sup>,
- (26) O(CH<sub>2</sub>)<sub>n</sub>C(O)N(R<sup>5</sup>)<sub>2</sub>,
- (27) CF<sub>3</sub>,
- (28) CH<sub>2</sub>CF<sub>3</sub>,
- (29) OCF<sub>3</sub>, and
- (30) OCH<sub>2</sub>CF<sub>3</sub>,

wherein phenyl, naphthyl, heteroaryl, cycloalkyl, and heterocyclyl are unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, oxo,

C<sub>1-4</sub> alkyl, trifluoromethyl, and C<sub>1-4</sub> alkoxy, and wherein any methylene (CH<sub>2</sub>) carbon atom in R<sub>2</sub> is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C<sub>1-4</sub> alkyl, or two substituents when on the same methylene (CH<sub>2</sub>) group are taken together with the carbon atom to which they are attached to form a cyclopropyl group;

R<sub>3</sub> is selected from the group consisting of

- (1) C(O)O-phenyl,
- (2) C(O)O-CH<sub>2</sub>-phenyl,
- (3) C(O)O-isopropyl,
- (4) C(O)O-isobutyl, and
- (5) C(O)O-ethyl;

R<sub>4</sub> is selected from the group consisting of

- (1) C(O)O-*tert*-butyl,
- (2) C(O)O-CH<sub>2</sub>-phenyl, and
- (3) C(O)O-phenyl; and

each R<sub>5</sub> is independently selected from the group consisting of

- (1) hydrogen,
- (2) C<sub>1-6</sub> alkyl,
- (3) -(CH<sub>2</sub>)<sub>n</sub>-phenyl,
- (4) -(CH<sub>2</sub>)<sub>n</sub>-heteroaryl,
- (5) -(CH<sub>2</sub>)<sub>n</sub>-naphthyl,
- (6) -(CH<sub>2</sub>)<sub>n</sub>-heterocyclyl,
- (7) -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub> cycloalkyl, and
- (8) -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-7</sub> bicycloalkyl,

wherein alkyl, phenyl, heteroaryl, heterocyclyl, and cycloalkyl are unsubstituted or substituted with one to three groups independently selected from halogen, C<sub>1-4</sub> alkyl, hydroxy, and C<sub>1-4</sub> alkoxy, or two R<sub>5</sub> groups together with the atom to which they are attached form a 4- to 8-membered mono- or bicyclic ring system optionally containing an additional heteroatom selected from O, S, and -NC<sub>1-4</sub> alkyl.

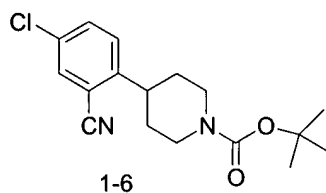
29. (original) The process of Claim 28 wherein R<sup>1</sup> is CN; R<sup>2</sup> is chloride; R<sup>3</sup> is C(O)O-CH<sub>2</sub>-phenyl; and R<sup>4</sup> is C(O)O-*tert*-butyl.

30. (original) The process of Claim 28 wherein the dihydropyridine double bonds of compound (VI) of step (d) are reduced by hydrogenation in the presence of a catalyst and an anhydride.

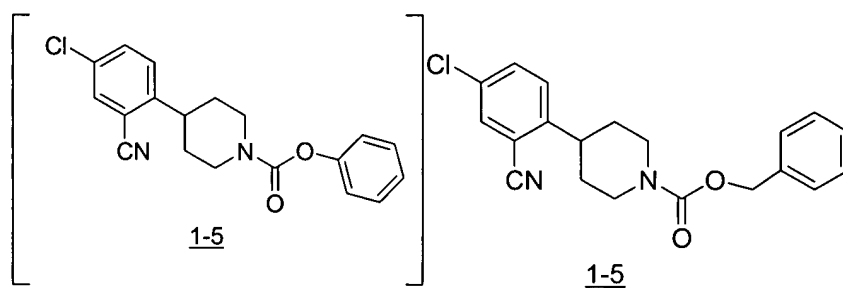
31. (original) The process of Claim 30 wherein the catalyst is Pd/C.

32. (original) The process of Claim 30 wherein the anhydride is *tert*-butyloxycarbonyl anhydride.

33. (original) The compound 1-6



34. (amended) The compound 1-5



35. (amended) A The compound 1-4 ~~selected from~~

